Department of Veterans Affairs

Office of Enterprise Architecture Management

Enterprise Architecture IV&V with Recommendations—Final Report

Version 1.1

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CENTER FOR ENTERPRISE MODERNIZATION

MITRE

Center for Enterprise Modernization
McLean, Virginia

Executive Summary

The MITRE Corporation (MITRE) was directed by the Department of Veterans Affairs (VA) to undertake an Independent Verification and Validation (IV&V) of the VA Enterprise Architecture (EA), assessing it against the criteria defined in the *Federal Enterprise Architecture (FEA) Enterprise Architecture Assessment Framework (EAAF)*, established by the Office of Management and Budget (OMB). MITRE identified a number of action items that the VA would need to undertake to meet the EAAF criteria for a Level 3 rating when the VA EA is submitted to the OMB in February 2006.

In addition, MITRE identified ongoing actions for an evolving VA EA to ensure that it accomplishes its stated mission:

> *"...to implement an evolutionary, high-performance One-VA information technology architecture aligned with our program/business goals that enables enterprise-wide data integration... [and] to provide an accessible source of consistent, reliable, accurate, useful, and secure information and knowledge to veterans and their families, our workforce, and stakeholders to support effective delivery of services and benefits, enabling effective decision-making and understanding of our capabilities and accomplishments."[1]*

A preliminary set of actions, based on the VA EA 4.0, was presented to the VA on November 16, 2005, followed by an Interim Assessment on December 29, 2005. This final report is based on an analysis of the VA EA 4.1 as it existed on January 26, 2006, assessed against the *FEA EAAF, Version 2.0*. The report includes recommendations addressing three areas of improvement:

1. Recommendations for immediate actions to improve the VA EA before submission to the OMB in February 2006.

2. Recommendations to make the evolving One-VA EA smaller, simpler, and easier to use.

3. Overall recommendations.

In order to address improvements to the VA EA beyond the EA submission to the OMB in February 2006, MITRE recommends the following:

*   EA Program Plan – Rather than a set of reference documents, the EA Program Plan needs to be a set of articulated, documented, and integrated and actionable processes that are used to guide and influence configuration and control, governance, and program management of the evolving EA.

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[1] Department of Veterans Affairs *Enterprise Architecture Strategy, Governance and Implementation*, August 2001; and *One-VA Enterprise Architecture Implementation Plan: FY2003*.

- OMB Framework Assessment – Beyond the specific mapping of VA EA to the FEA Reference Models (RMs), apply the reference models as integral elements of the approach to developing and structuring content of the EA.

- EA Usability – There needs to be a clearly defined set of users of the VA EA with specific roles, as well as the active participation of these users to ensure that their perspectives, needs, and responsibilities are reflected in the navigation and information content of the EA.

- VA EA Structure – Move away from a reliance on populating the cells of the current framework to a focus that simplifies the structure, integrates the content, represents both current environment and future vision, clearly articulates information and data needs, and clearly articulates the transition stages.
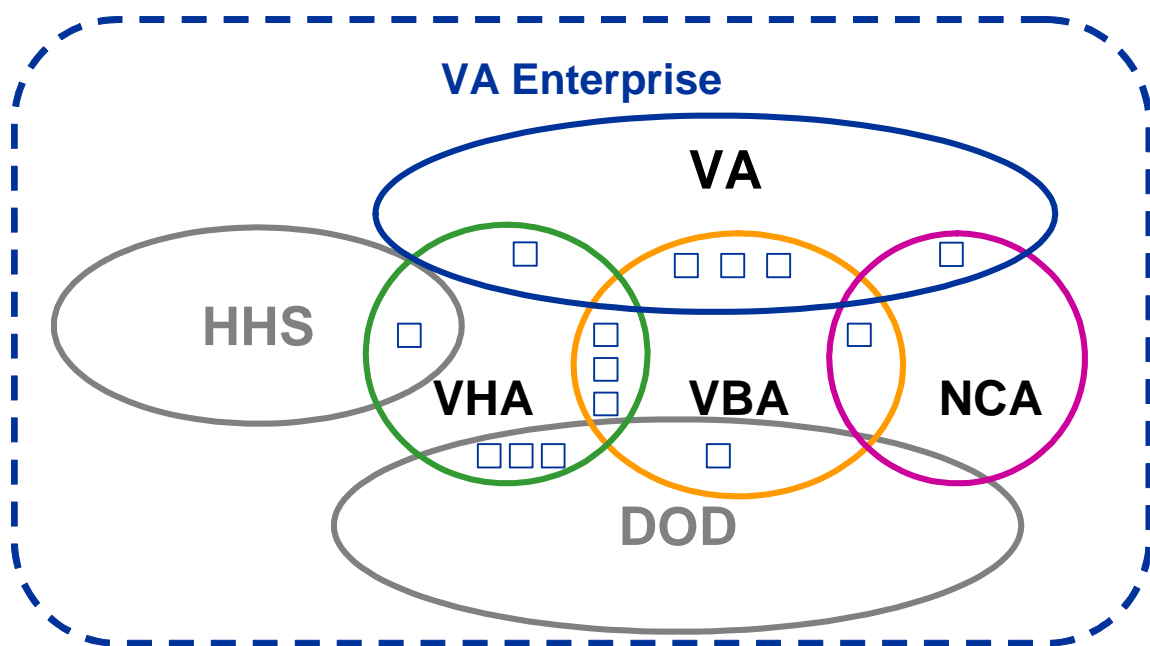

Figure 1. The Evolving VA EA

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1. Introduction

The Department of Veterans Affairs (VA) has developed an enterprise architecture (EA) to align the VA's business requirements with its information technology policies, procedures, and infrastructure. In the third quarter of fiscal year 2005, the VA EA version 4.0 was assessed by the Office of Management and Budget (OMB), which has the responsibility under the E-Government Act of 2002 for facilitating the development and implementation of enterprise architectures within and across agencies. The assessment was conducted by OMB's Federal Enterprise Architecture Program Management Office (FEA PMO) against the criteria in the *Enterprise Architecture Assessment Framework (EAAF) Version 1.5*. Prior to the third quarter of FY2005, OMB gave the VA EA 4.0 an overall rating of 1.25. In June 2005, OMB's assessment yielded a much improved rating of 3.0 and identified areas in which the VA EA could be further improved.

In December, 2005, OMB issued the revised *EAAF Version 2.0*, which "raises the bar" for EA maturity by specifying criteria and artifacts required as specific evidence for the rating. In preparation for the next OMB assessment of its EA, the VA's Office of Enterprise Architecture Management (OEAM) contracted with The MITRE Corporation (MITRE) to conduct an Independent Verification and Validation (IV&V) of its Enterprise Architecture against this framework.

1.1 Purpose

The purpose of this draft final report is to provide an assessment of the strengths and weaknesses of the VA EA, with recommendations for improving the EA that can be implemented by the VA.

1.2 Scope

MITRE is providing the VA OEAM an assessment of its Enterprise Architecture efforts, using the VA EA 4.1 as it existed on January 26, 2006. This document provides a comprehensive analysis of the VA EA with recommendations that the VA can implement for the FY2007 EA submission to the OMB.

1.3 Approach

After considering OEAM's priorities as expressed in the meeting on October 13, 2005, MITRE determined and OEAM agreed that an OMB-centric approach would be most appropriate in supporting OEAM's near-term efforts to improve the Enterprise Architecture. This report maps the activity categories into the *EAAF 2.0* Criteria Areas.

1.4 Intended Audience

The EA Assessment is intended for use by VA OEAM decision-makers and managers in order to make the improvements necessary to achieve Level 2 and 3 Rating against criteria in OMB EAAF 2.0 in February 2006.

1.5   References

The following documents will be used to develop the EA Assessment deliverable:

- VA Enterprise Architecture version 4.1 as of January 26, 2006.
- *Federal Enterprise Architecture (FEA) Program Enterprise Architecture Assessment Framework (EAAF) Version 2.0, December, 2005*.

1.6   Document Organization

This document is organized as follows:

Table 1. Document Organization

Section		Purpose
Section 2	Findings	Presents near-term recommendations for improving the VA Enterprise Architecture in utility and usability, and in meeting the requirements of the OMB ***Enterprise Architecture Assessment Framework*** *Version 2.0* by February 2006
Section 3	Recommendations / Next Steps	Presents developmental recommendations for improving the VA Enterprise Architecture in utility and usability and in meeting the requirements of the OMB ***Enterprise Architecture Assessment Framework Version*** *2.0* by February 2007
Acronym List		Acronyms used in this document

2. Findings

This section presents an analysis of the VA EA version 4.1 as of January 26, 2006, against the criteria in the OMB *Enterprise Architecture Assessment Framework Version 2.0*, published December 2005. These findings include an overview of the strengths and weaknesses of the VA EA, as well as recommendations for improving the VA EA in utility, readability, and usability, and in meeting the requirements of the *Federal Enterprise Architecture Framework Version 2.0* by February 2006.

The findings are presented separately in three categories:

- **Completion**
  - Performance Architecture
  - Business Architecture
  - Data Architecture (Information Management)
  - Service Component Architecture
  - Technical Architecture
  - Transition Strategy

- **Use**
  - EA Governance and Management
  - EA Change and Configuration Management
  - Federation of Enterprise and Segment Architecture
  - EA Deployment
  - CPIC Integration

- **Results**
  - Business Driven
  - Collaboration and Reuse
  - Business Process and Service Improvement
  - IT Implementation Improvement
  - E-Gov, Lines of Business, and SmartBUY Alignment and Implementation
  - IPv6 Planning

These findings are presented in the following format:

- A table defining the categories in the *Federal Enterprise Architecture Framework Version 2.0* and detailing the activities and artifacts required to achieve Levels 1-5 in the Framework

- Interpretation of the descriptions

- Assessment and Rating of VA EA Version 4.0/Assessment and Rating of VA EA Version 4.1

- Key Findings

- Action items. (*NOTE:* Those items that have been addressed from the previous assessment are indicated by the strikethrough. Those items that are not are addressed, or are new actions, appear as plain text.)

- Recommendations to move toward One-VA EA. (NOTE: These items are specific recommendations by criteria to address the One-VA.)

2.1   Completion

Description: Completion of an enterprise architecture including its related artifacts.

The agency EA is mature and EA products describe the agency in terms of processes, services, data, technology, and performance. The agency's baseline and target architectures are well-defined, showing the line of sight through all architectural layers. Using its transition strategy and sequencing plan, the agency is able to achieve its desired target state.

2.1.1   Performance Architecture

Performance Architecture	The EA contains performance measurement indicators, aligned to the FEA Performance Reference Model (PRM) and layers of the agency EA, and the EA is used to help track improve agency performance.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Agency has identified performance measurement areas and categories based on the FEA PRM. **Artifacts:** Baseline Performance Architecture	**Activities**: Agency has identified measurement indicators for its baseline architecture and aligned them to baseline processes, services, technology and data. There is clear traceability to measure and monitor performance throughout the agency EA. **Artifacts**: Baseline Performance Architecture	**Activities**: Agency has identified measurement indicators for its target architecture and aligned them to target processes, services, technology and data. There is clear traceability to measure and monitor performance throughout the agency EA. **Artifacts:** Target Performance Architecture	**Activities**: Incremental improvements in agency performance measures are included as milestones in the EA Transition Strategy. **Artifacts:** Target Performance Architecture, Transition Strategy	**Activities:** Agency has documented its performance measurement processes and aligned them with other manage-ment processes including Capital Planning and Investment Control (CPIC), strategic planning, Systems Development Lifecycle (SDLC), and Information Resource Management (IRM). Performance measurement indicators and processes are monitored, measured, and updated on a regular basis. **Artifacts:** Target Performance Architecture, Transition Strategy

Interpretation: The EA contains strategic outcomes, desired business results, and performance measures that are aligned from the Strategic Plan to the Lines of Business of the BRM, to the Business Processes, to the Systems Services which will provide line of sight. All measures are tracked and reported in the Transition Plan.

Assessment and Rating for VA EA 4.0: Level 1

Assessment and Rating for VA EA 4.1: Level 2.5

Key Findings[2]:

- ~~Performance Architecture does not currently exist.~~

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[2] Strikethroughs indicate that the finding or action item was from the Interim version of this report and has since been addressed by the OEAM.

- The VA Strategic Plan 2003-2008 is a rich source of performance goals and associated business goals.

- ~~Current Plan to use Performance and Accountability Report which reports measures based on the DVA Strategic Plan will provide a basis from which the VA can develop a Performance Architecture.~~

- ~~Need to include mapping to the FEA BRM from the Strategic Plan through to the business processes and the systems services to satisfy OMB.~~

Action Items to move toward achievement of Level 2:

- ~~The current plan to address the adoption of the Performance and Accountability Report measures will need to be supplemented with the additional mappings to the FEA BRM and the VA business processes and the systems services as well as technology and data to achieve a level 2.~~

Action Items to move toward achievement of Level 3:

- ~~Extend the measures from the Performance and Accountability Report to the Target Enterprise Architecture (future vision).~~

- Extend Target Architecture to the Vision Architecture.

Recommendations to move toward One-VA EA:

- Develop performance goals at all layers of the EA.

- Extract the performance goals from the VA Strategic Plan and incorporate them into the fundamental aspects of the EA including business, services and data architectures.

- Demonstrate clear lines-of-sight from conceptual performance goals to physical performance metrics/standards. Specifically, fix the inputs and outputs of the enterprise activities to desired business outcomes.

2.1.2   Business Architecture

Business Architecture	EA contains an inventory of agency business processes, aligned to the FEA Business Reference Model (BRM), linked to layers of the agency EA and used to inform investment decision making.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Agency has identified business processes based on the FEA BRM including functions and sub-functions. **Artifacts**: Baseline Business Architecture	**Activities**: Baseline business processes are linked to the layers of the agency's baseline EA including perform-ance, services, technol-ogy and data, as well as other business elements such as stakeholders, organizations, facilities, programs, investments and activities and security processes. **Artifacts:** Baseline Business Architecture	**Activities:** Target business processes are linked to the layers of the agency's target EA includ-ing performance, services, technology and data, as well as other business elements such as stake-holders, organizations, facilities, programs, investments and activities. Segment architectures have been defined for all agency lines of business, including mission-critical business segments as well as administrative or common/shared lines of business. Target business architecture is aligned to the agency strategic plan and the IRM strategic plan and security processes. **Artifacts:** Target Business Architecture	**Activities**: Business target architecture informs transition planning and investment decision-making. Transition strategy demonstrates transformation from baseline to target business architecture. Selected investments demonstrate alignment to target business architecture. **Artifacts:** Target Business Architecture, Transition Strategy, CPIC Guide	**Activities:** Business architecture is monitored, measured, and updated on a regular basis. **Artifacts:** Updated Target Business Architecture and Transition Strategy

Interpretation: The EA contains business processes (current and target) that have been aligned to the FEA BRM and the processes are linked to performance, services, data, and technology as well as stakeholders, organizations, facilities, and programs.

Assessment and Rating for VA EA 4.0: Level 2

Assessment and Rating for VA EA 4.1: Level 2.5

Key Findings:

- The Business As-Is Architecture articulation of the Mission for each of the business areas is well defined.

- The level of detail found in the diagrams for the As-Is Architecture is consistent with the level of detail found in other federal To-Be enterprise architectures.

- The Business Target Architecture, which currently only lists and maps projects in the funded portfolio, needs to be extended to address desired business results and aligned to the strategic plan as well as to performance architecture.

- Segment architectures exist at NCA, VBA and VHA but are not integrated into or dependent on the Department's Architecture.

Action Items to move toward achievement of Level 3:

- Extend the Target Business Architecture to cover the Strategic Plan.
- ~~The business lines need to be aligned to the current version of the FEA BRM and PRM.~~

Recommendations to move toward One-VA EA:

- Use the As-Is Architecture as an archetype of how the To-Be artifacts should look, rather than Gantt charts and pivot tables.
- The To-Be (Vision) architecture must be link to the Information/Data Architecture
- Use the Business Objectives to drive performance measures through the levels of the architecture.
- Use artifacts that illustrate the roles, responsibilities of stakeholders.
- Define the interpretation of "segment architecture" (OMB is looking for LOB vs. organizational)

2.1.3   Data Architecture (Information Management)

Data Architecture (Information Management)	Enterprise data described at the level of business data entities, linked to the FEA Data Reference Model (DRM) as it evolves and other layers of agency EA.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: The agency has partially documented elements of its baseline data architecture including data assets as defined by the DRM. **Artifacts**: Baseline Data Architecture	**Activities:** The agency has partially documented elements of its baseline data architecture including data assets, exchange packages and data suppliers and consumers as defined by the DRM. **Artifacts:** Baseline Data Architecture	**Activities:** The agency has created a high-level target data architecture that identified opportunities for information sharing and consolidation. When applicable and required by law and policy, the agency has prepared and published inventories of the agency's major information holdings and dissemination products, and otherwise made them available for use by all interested and authorized parties including other agencies and as appropriate, the general public, industry, academia, and other specific user groups. **Artifacts**: Target Data Architecture	**Activities:** The target data architecture identified mechanisms for information dissemination and classification within the agency. Where applicable, the agency is using data standards to fulfill mission needs and meet the requirements of law and policy and has published the nature and use of such standards centrally for access by all interested parties, including the general public. Where data standards are applicable, the agency has adopted voluntary standards or Federal Information Processing Standards; and, where existing standards are not available, has followed prescribed policies (i.e., OMB Circular A-119) for developing unique standards. **Artifacts**: Target Data Architecture	**Activities**: When applicable and required by law and policy, the agency has: 1) documented procedures to ensure information is properly managed (i.e., created, collected, categorized, inventoried, preserved, disseminated, searched for, retrieved, and shared) in a manner consistent with applicable information policies and procedures; 2) implemented such policies; and 3) prepared and published inventories and otherwise made them available for use by all interested and authorized parties including other agencies and as appropriate, the general public, industry, academia, and other specific user groups. **Artifacts:** Target Data Architecture

Interpretation: The EA contains an Enterprise Conceptual Data Model that identifies all major data classes, shows alignment to the FEA DRM, and shows linkage to the other layers of the EA.

Assessment and Rating for VA EA 4.0: Level 1 – 1.5

Assessment and Rating for VA EA 4.1: Level 2

Key Findings:

- The Corporate Information Model (CIM) represents a well-defined integrated dictionary for the EA.

- Well-defined Conceptual Data Model (high-level DRM).

- Detailed CRUD matrix and extremely detailed project-level data interfaces.

- Need to align names (naming convention) between the exhibits and categorize data interfaces for information exchange purposes and relocate project level detail into separate repository.

Action Items to move toward achievement of Level 2:

- ~~Identify all policies and procedures that drive the information exchange requirements of the architecture.~~

Action Items to move toward achievement of Level 3:

- Link the information needs from the CIM to consumers and producers found in roles, activities, and processes.

- Identify and architecturally render all user groups and roles that drive the information exchange requirements of the architecture.

- Identify opportunities for information sharing and consolidation.

Recommendations to move toward One-VA EA:

- Derive the Information/Data Architecture from the Vision Business Architecture activities and information exchanges.

- Identify security requirements for information/data architecture by roles, responsibilities and stakeholders.

2.1.4   Service Component Architecture

Service Component Architecture	This architecture describes agency services linked to the FEA SRM and other layers of agency EA.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Agency has identified its inventory of existing applications and aligned it with the FEA SRM. **Artifacts:** Baseline Service Component Architecture	**Activities:** Baseline applications are linked to service components in the FEA SRM, which in turn link to baseline EA elements including performance, process, technology and data and security processes. **Artifacts:** Baseline Service Component Architecture	**Activities:** Target service components are linked to the layers of the agency's target EA including performance, process, technology and data and security processes. **Artifacts:** Target Service Component Architecture	**Activities:** Service component target architecture informs transition planning and investment decision-making. Transition Strategy demonstrates transformation from baseline to target service component architecture. Standardization and reuse of service components is supported through agency SDLC and CPIC policy and procedures. The Transition Strategy informs agency investment planning and execution by providing specific investment recommendations as part of the CPIC process. **Artifacts:** Target Service Component Architecture, Transition Strategy, SDLC and CPIC Guides	**Activities:** Service component architecture is updated on a regular basis and service component sharing and reuse within and across agencies is monitored and measured. Service components available agency-wide. EA provides capabilities to help enhance and improve interoperability and information sharing. **Artifacts:** Updated Target Service Component Architecture and Transition Strategy

Interpretation: The EA has identified all services and identified those that are shared. All services are aligned to the FEA SRM, and the services are linked to the other layers of the EA.

Assessment and Rating for VA EA 4.0: Level 2

Assessment and Rating for VA EA 4.1: Level 2 – No change

Key Findings:

- "Shareable services" are mapped to VA business functions to the SRM.
- Identification of applications is inappropriately mixed with services.
- Need to align SRM to the Performance Architecture which should support alignment to technology and data alignment for the Target Service Component Architecture.

Action Items to move toward achievement of Level 3:

- Extend the Service Component Architecture to include "shareable" services of the enterprise and not just the projects in the portfolio.
- Identify all services and indicate which are capable and actually shared both in the current and target architectures.

Recommendations to move toward One-VA EA:

- Use RE/CM as the example set of services to achieve the Vision Architecture.

2.1.5   Technical Architecture

Technical Architecture	Inventory of deployed and approved technologies linked to the FEA TRM and other layers of the agency EA; providing a basis for standardization opportunities.				
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
	Activities: Agency has identified technology products and standards currently used at the agency, based on the FEA TRM. **Artifacts:** Baseline Technology Architecture	**Activities:** Current technology components are linked to the layers of the agency's baseline EA including performance, processes, services and data and security processes. Inter-operability standards are defined at the business function level and are aligned to the TRM and SRM. **Artifacts:** Baseline Technology Architecture	**Activities:** Target technology components are linked to the layers of the agency's target EA including performance, processes, services and data. Interoperability standards are defined at the business function level and are aligned to the TRM and SRM. **Artifacts:** Target Technology Architecture	**Activities:** Technology target architecture informs transition planning and investment decision-making. Transition Strategy demonstrates trans-formation from baseline to target technology architecture. Standard-ization and reuse of technology components is supported through agency SDLC and CPIC policy and procedures. The Transition strategy informs agency investment planning and execution by providing specific investment recommendations as part of the CPIC process. **Artifacts**: Target Technology Architecture, Transition Strategy, SDLC and CPIC Guides	**Activities**: Technology architecture is updated on a regular basis and technology standard-ization and reuse within and across agencies is monitored and measured. A well-defined process for technology insertion within the agency exists. Technology components available agency-wide. EA provides capabilities to help enhance and improve interoperability and information sharing. **Artifacts**: Updated Target Technology Architecture and Transition Strategy

Interpretation: The EA contains both an inventory of current standards and technologies as well as an articulation of future-state technologies and standards that are aligned with the FEA TRM as well as the other layers of the EA.

Assessment and Rating for VA EA 4.0: Level 2-3

Assessment and Rating for VA EA 4.1: Level 3

Key Findings:

- TRM is aligned with SRM.
- Extensive systems inventory.
- Need to identify and define interoperability standards and align with business functions and the PRM.

Action Items to move toward achievement of Level 3:

- Extend the horizon of the Target Technical Architecture.
- Include relevant measures for the PRM.
- Identify interoperability standards.

2.1.6   Transition Strategy

Transition Strategy	A transition strategy describes the agency strategy for migrating between its baseline architecture to its target architecture.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Agency has a well-documented approach/methodology for creating, maintaining, and managing the EA Transition Strategy. This approach typically includes processes for performing gap analysis, alternatives analysis, and the management of projects over time. **Artifacts**: Transition Strategy	**Activities:** Agency has performed a redundancy and gap analysis identifying opportunities for consolidation or re-use and gaps between the baseline and target architectures. **Artifacts:** Transition Strategy	**Activities:** Agency has defined programs and projects in support of its target architecture and has a documented sequencing plan integrating program and project dependencies, performance improvement, security planning activities, staffing, and facilities plans, and enterprise transition states. **Artifacts:** Transition Strategy	**Activities:** Agency shows clear linkage between programs and projects in the EA Transition Strategy and the initiatives in the agency investment portfolio. **Artifacts:** Transition Strategy, IT Portfolio	**Activities:** Performance management has been incorporated in the agency Transition Strategy and Sequencing Plan and the agency is measuring progress towards achieving its target architecture. There is a clear line of site established between PART scores, Programs, investments and agency EA. **Artifacts:** Transition Strategy, Agency IT Portfolio, Annual Performance Plan

Interpretation: The EA contains a transition strategy that clearly maps the transitions of the funded portfolio. It should also identify gaps and those items yet to be achieved in the target architecture.

Assessment and Rating for VA EA 4.0: Level 2

Assessment and Rating for VA EA 4.1: Level 2.5

Key Findings:

- Only the current portfolio is represented in the transition strategy.

- Planning horizon is limited to funding horizon.

- Need to identify major programs to optimize development and technologies. Incorporate technology sunsets and system sunsets into transition.

- Gap Analysis identifies funding gaps and not the requirements of the Vision Architecture.

Action Items to move toward achievement of Level 3:

- Extend the planning horizon for the To-Be Architecture to ensure that the Transition Strategies are addressing the longer term requirements of the architecture and that efforts are aligned.

- All elements — business, technical, performance, etc. — must be included in the Transition Strategy.

- ~~Include the identifications of gaps and opportunities in the transition strategy~~.

Recommendations to move toward One-VA EA:

- Develop Gap Analysis that identifies gaps between baseline and Vision Architecture.

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2.2   Use

Description: Use of the EA to drive improved decision-making.

The agency has established the necessary management practices, processes, and policies needed for developing, maintaining, and overseeing the EA, and demonstrating the importance of EA awareness and the value of employing EA practices within an agency. The agency uses its EA to inform strategic, information resources management, IT, and capital planning and investment control processes.

2.2.1   EA Governance and Management

EA Governance and Management	The agency must govern and manage the implementation and use of EA policies and processes. This includes the selection of a Chief Architect (CA), allocation of resources, and the sponsorship of EA at the executive level.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: The agency has developed a vision and strategy for EA. The agency has begun to identify EA tasks, and resource requirements. Agency has appointed a CA. The agency has senior-level sponsorship of its EA Program, and the program is funded. **Artifacts:** EA Program Plan, EA Framework	**Activities:** Agency has established an EA Governance Committee or other group for directing, overseeing, or approving EA activities. Internal and external stakeholders are identified based on their involvement in EA related activities and needed information. The agency has selected an EA Framework and implemented a tool/repository capable of supporting the chosen framework. **Artifacts:** EA Governance Committee Charter, EA Repository, EA Program Plan	**Activities**: EA Governance Committee or other group meets on a regular basis and makes decisions related to directing, overseeing, and approving EA activities within the agency. The Committee follows a formal process for holding, conducting, and recording meetings. The EA Compliance process is followed consistently throughout the agency. The Governance Committee reports compliance on a regular basis. **Artifacts:** EA Governance Plan, EA Governance Committee Meeting Minutes, EA Program Plan	**Activities:** EA Governance Committee manages and monitors the agency EA using the enterprise transition strategy and IT investment project plans. The EA Governance Committee identifies any risks to EA implementation and develops a plan to mitigate them. The agency captures metrics to measure the progress against the established EA plans. Goals are being set for the future of the EA Program Plan. Alignment to the EA standards has become common practice throughout the agency. The compliance process is reviewed and updated when deficiencies or enhancements to the process are identified. **Artifacts**: EA Transition Strategy, EA Program Plan, EA Governance Committee Meeting Minutes	**Activities:** The EA Governance Committee ensures EA compliance throughout the agency. If non-compliance is identified, the Committee is responsible for developing a plan to resolve the issues. **Artifacts:** EA Governance Plan, EA Governance Committee Meeting Minutes, EA Program Plan

Interpretation: The EA is directed and managed by a committee that ensures compliance with EA standards throughout the VA. Governance should encompass the internal and external relationships needed to design and implement the EA.

Assessment and Rating for VA EA 4.0: Level 1 - 2

Assessment and Rating for VA EA 4.1: Level 2.5

Key Findings:

- ~~The Enterprise Architecture Council (EAC), as the VA's EA governance committee, doesn't direct, oversee, or approve EA activities.~~

- ~~EA compliance processes are not followed in order to monitor alignment to EA standards.~~

- ~~There does not appear to be evidence that stakeholders are identified specifically by "their involvement in EA related activities and needed information."~~

- The Project Management Guide Appendices contains a list of "VA Governing Organizations" but no description of how their functions relate to each other or their specific roles and responsibilities in regard to the EA. The Enterprise Architecture Council is not included.

Action Items to move toward achievement of Level 2:

- Identify internal and external stakeholders based on their involvement in EA-related activities and needed information.

- ~~Include EAC minutes in the EA repository~~.

Action Items to move toward achievement of Level 3:

- ~~Develop an EA Governance Plan that includes processes to ensure consistent compliance to the EA.~~

- ~~Reconstitute the Enterprise Architecture Council as the EA governance committee. Include members whose roles and responsibilities clearly state they will manage EA implementation and foster the compliance process throughout the agency.~~

- ~~Convene the EA Council on a regular basis and capture decisions in meeting minutes which are posted in the EA Repository~~.

- Level 3 requires that the EA compliance process "is followed consistently throughout the agency." The EA Governance Plan process should be operational to achieve Level 3.

Recommendations to move toward One-VA EA:

- EA Governance Plan needs to include a pre-select phase that captures the requirements of projects and the alignment to the EA prior to the inception of a program/project/initiative.

2.2.2   EA Change and Configuration Management

EA Change and Configuration Management	Agencies should have the ability to effectively manage changes to EA artifacts, including documents and any EA repositories.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Agency has developed an EA policy to guide the development, implementation, and maintenance of EA. It ensures agency-wide commitment to the development of EA and clearly assigns responsibility to do so. **Artifacts**: Configuration Management Plan	**Activities**: A configuration management system exists to manage and maintain the EA. A configuration management system includes the storage media, the procedures, and the tools for accessing the system. **Artifacts:** Configuration Management Plan, Configuration Management Reports	**Activities**: The agency has established an EA baseline that serves as the basis for further development, and can be changed only through the change control procedures. The agency's configuration management process is used to review and accept changes to the work products and document any necessary changes. As changes are made, the baseline is updated and archived. **Artifacts**: Configuration Management Plan, Configuration Management Reports	**Activities:** The agency's configuration management process evaluates EA artifacts to determine any discrepancies between them and the approved baseline. **Artifacts:** Configuration Management Reports, including recommended corrective actions (action items)	**Activities:** The agency's EA is a dynamic model that represents changes to the agency's constraints and business drivers. The agency has a formal process for defining and implementing changes to the architecture. This process recognizes both internally and externally prompted change, and provides for continuous capture and analysis of change proposals and informed decision-making about whether to make changes. **Artifacts:** Configuration Management Plan, Configuration Management Reports

Interpretation: EA Change and Configuration Management in the Use category *applies to the EA itself*, including its artifacts, and associated documents and repositories.   It does not apply to change and configuration management associated with the development and maintenance of projects or systems.

Assessment and Rating: 0*

Key Findings:

- Processes to control change and configuration management of the EA itself do not currently exist. *NOTE:* Current reference to content contained in the PMP does not address the requirements as defined by OMB for this criterion.

Action Item to move toward achievement of Level 1:

- Develop an EA Configuration Management Plan.

* As of January 26, 2006, there had been no modifications to this section of the EA; therefore, this assessment is the same as that presented in the Interim Assessment of December 29, 2005.

2.2.3   Federation of Enterprise and Segment Architecture

Federation of Enterprise and Segment Architecture	Agencies should have the ability to effectively federate lower-level segment architectures (including content, structure and policies) with higher-level agency-wide EA initiatives.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Multiple bureau-level architectures exist within the agency. No policies or procedures exist to integrate bureau-level architectures into the agency-wide EA. **Artifacts**: EA Repository	**Activities:** Agency EA governance process has established integration policies and processes providing a mechanism to link bureau-level EAs to the agency-level EA. **Artifacts:** EA Governance Plan	**Activities:** Enterprise and bureau-level EAs are using a standard EA framework and modeling standards. The Enterprise EA accurately reflects the bureau-level EAs. The EA is integrated with strategic and capital planning processes. **Artifacts:** EA Framework	**Activities**: Agency has begun to standardize its common processes/ LoBs across bureaus (e.g., finance, human resources, IT). The agency has identified common re-usable architecture components and technologies. **Artifacts:** EA Repository, Transition Strategy	**Activities:** The agency has one centralized EA used by all bureaus and organizations. There is no redundancy between architectural elements (processes, information, services and technology) found at the enterprise and bureau levels and represented in the agency EA. The agency EA is integral to strategic and capital planning and systems development. **Artifacts:** EA Repository

Interpretation: The EA should explain how the VA Administrations' architectures are aligned to the Department's EA.

Assessment and Rating for VA EA 4.0: Level 1

Assessment and Rating for VA EA 4.1: Level 1 – No change

Key Findings:

- There is no apparent evidence that the individual Administrations' architectures are coordinated and integrated with the enterprise architecture of the Department.

Action Items to move toward achievement of Level 2:

- Develop the EA development process and associated EA governance process to establish linkages between the EA and the Administrations' architectures.

2.2.4   EA Deployment

EA Deployment	Agencies should have the ability to deploy EA content out to their user community, including deployment of a repository, training, and communications.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: EA artifacts are available, but dispersed through-out the agency. Some form of an EA Artifact inventory is available. **Artifacts:** EA Artifact Inventory	**Activities**: An EA Repository exists within the agency. It houses the agency's EA arti-facts and models and is readily accessible to the agency's EA user community. **Artifacts:** EA Repository	**Activities:** The agency's architecture is well defined and communicated. Training is available and provided throughout the agency to increase the awareness and understanding of the EA concepts and processes. **Artifacts:** EA Training Plan, EA Training Materials	**Activities:** An EA Communication process is in place and being followed. The communi-cation process is updated as necessary and the content of communica-tions materials is updated periodically. **Artifacts:** EA Communi-cations Plan	**Activities:** Use of the EA Repository and its web interface is integrated with CPIC, SDLC, and stra-tegic planning processes. **Artifacts**: EA Repository

Interpretation: EA content is available to, communicated to, and understood by the user community.

Assessment and Rating from VA EA 4.0: Level 2

Assessment and Rating from VA EA 4.1: Level 2.5

Key Findings:

- The EA repository is difficult to navigate.
- ~~The EA repository does not currently contain important EA artifacts, including EA governance and EA Configuration management plans~~.
- The EA repository contains supporting artifacts, such as the Communications Plan and the EA Governance Plan, gathered in a section entitled "Planning Documents."
- ~~There are no programs to pro-actively communicate with or to train the EA user community~~.
- The Enterprise Architecture Council (EAC) has established two-way communication with the EA stakeholders.

Action Items to move toward achievement of Level 3:

- ~~Adjust the repository to provide more descriptive filenames and linkages to specific topics such as governance that resides in EA artifacts outside the repository~~.
- Demonstrate relationships among existing Target Architecture artifacts and current initiatives.
- Develop ~~communications and~~ training plans that increase awareness and understanding of the EA.

Recommendations to move toward One-VA EA:

- Develop Governance program and Communication Plan that address requirements for Vision Architecture.

2.2.5   CPIC Integration

CPIC Integration	An effective agency EA should be integrated with the agency's CPIC process, including agency ability to align proposed investments to the approved transition strategy.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Projects and purchases are typically done in isolation at the Bureau/LoB level, resulting in costly purchases and redundant development and training requirements. Scattered CPIC processes exist for selecting, controlling, and evaluating IT invest-ments. EA data is not used to inform IT initiative/system funding decisions. **Artifacts**: CPIC Guide	**Activities**: Agency begins to streamline its CPIC process and integrate it with its EA Framework and process. The agency IT invest-ment review process identifies the business needs for identified IT projects fitting within its architecture. **Artifacts**: CPIC Guide	**Activities:** The agency's EA Program is integrated with strategic planning and budgeting processes. The agency's policies and procedures specify the relationship of its architecture to its IT decision-making processes and criteria. **Artifacts:** CPIC Guide, EA Transition Strategy	**Activities:** Enterprise Architecture is used to guide development and acquisition of investments/systems. The agency captures metrics to measure the savings in resources, including time and money. Costs and benefits, including benefits across agency boundaries, are consider-ed in identifying projects. **Artifacts:** IT Investment Review Board Minutes	**Activities:** Information gathered during the compliance process is used to proactively identify changes needed in the EA and drive the development of IT business cases for new IT investments. Architecture metrics are used to drive continuous process improvements. **Artifacts:** CPIC Guide, IT Investment Review Board Minutes

Interpretation: EA review processes are fully integrated with capital planning and investment control (CPIC) processes so that, at each step in the life cycle, investments are reviewed to ensure that they are in alignment with the EA transition strategy.

Assessment and Rating for VA EA 4.0: Level 1

Assessment and Rating for VA EA 4.1: Level 2.5

Key Findings:

- It is not evident that the EA is integrated with the Department's CPIC processes.
- Participation by OEAM in CPIC milestone reviews is *ad hoc*.
- The EA refers to CPIC once in the glossary and the Program Management Guide refers to CPIC once as a requirement stated in OMB-300 guidance.

Action Items to move toward achievement of Level 2:

- Articulate, within the Enterprise Architecture, how the CPIC and EA processes and review procedures are integrated.

Recommendations to move toward One-VA EA:

- Align and develop clear interfaces between the OEAM and CPIC so that funding decisions are aligned to the Transition Strategy and the Vision Architecture.

2.3   Results

Description: Results achieved that improve the agency's effectiveness.

Agency is measuring the effectiveness and value of its EA by assigning performance measurements to its EA and related processes, and using its analysis of the performance measurements to update its EA practice and guidance.

2.3.1   Business Driven

Business Driven	Agency architectures should be able to answer key business questions for its user community. These business questions should drive the outputs of the agency's EA tools so agency managers can make better decisions.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Agency EA program is informal and undefined. Processes and procedures for implementing a business-driven EA program may be incomplete and/or inconsistent across the agency. **Artifacts:** EA Program Plan	**Activities:** Business and technology stakeholders are identified for each architecture/business segment. **Artifacts:** EA Program Plan	**Activities:** The agency has begun to develop a vision for EA by identifying key business questions/business needs the EA (architecture/business segment) needs to answer and address. **Artifacts:** Business Questions Inventory	**Activities:** EA artifacts and activities are designed and measured against the business questions/needs assessment in support of the agency mission. **Artifacts:** Business Questions Inventory, EA Program Plan	**Activities:** Business improvement opportunities are continuously identified and progress towards meeting the needs is demonstrated; business questions/needs are driving the EA program, transition strategies etc. in alignment with the strategic mission and executive direction of the agency. **Artifacts:** Business Questions Inventory, EA Program Plan

Interpretation: Desired business results, as expressed by the user community, should drive initiatives.

Assessment and Rating VA EA 4.0: Level – 2*

Assessment and Rating VA EA 4.1: Level – 2.5*

Key Findings:

- Projects & Initiatives are well-described and related to the One-VA Vision Architecture.
- The Initiatives do not have architectural artifacts supporting them.
- The language of the initiatives is not action-oriented; it reads like an academic discussion.

Action Items to move toward achievement of Level 3:

- Develop desired business results for each Initiative.

Recommendations to move toward One-VA EA:

- Develop architectural artifacts for each initiative.

- Solicit the assistance of Subject Matter Experts (SME) in reviewing the Initiatives and developing the Business Architecture to ensure EA is aligned to business mission and processes.

* As of January 26, 2006, there had been no modifications to this section of the EA; therefore, this assessment is the same as that presented in the Interim Assessment of December 29, 2005.

2.3.2   Collaboration and Reuse

Collaboration and Reuse	Assess agency's ability to share and reuse services and service technology components.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Reuse is an ad hoc process and is not fully demonstrated across the agency. Agency does not structure new development toward reuse. **Artifacts**: SDLC Guide	**Activities:** Agency EA is accurately aligned to the FEA reference models and profiles and agency services and service components are cataloged for reuse. Agency enterprise assets are classified according to a standardized taxonomy in order to identify similarities. Dependencies within EA have been identified and documented. **Artifacts:** EA Repository, SDLC Guide	**Activities:** Agency has process in place for driving and ensuring reuse and a process or tool for measuring cost savings/avoidance as a result of reuse. **Artifacts:** EA Repository, EA Transition Strategy	**Activities**: Agency can demonstrate realized cost savings/avoidance through reuse of components. **Artifacts:** EA Repository, EA Transition Strategy.	**Activities:** Enterprise-scale reuse occurring consistently within agency; demonstrating direct and tangible returns to an agency's EA investment. Reuse can include systems and technologies. Documented cost savings and avoidance from the reuse or services and service technology components. **Artifacts:** EA Repository, EA Transition Strategy

Interpretation: The EA drives reuse by cataloging opportunities for reuse and enabling their implementation.

Assessment and Rating for VA EA 4.0: Level 1

Assessment and Rating for VA EA 4.1: Level 2

Key Findings:

- Opportunities for reuse are rendered in terms of business requirements of initiatives. For each initiative, there is a determination of possible elements of reuse of existing systems, not of components.

- For each initiative, emergent requirements that cannot be satisfied with reusable components are classified as "gaps" in need of new capital investment focusing on physical systems.

- The "Process Reuse Plan and Gap Analysis" lists "opportunities for data and process reuse" among new VA initiatives only, not all programs as required by Level 2.

- No document entitled "Reuse Policy." Guidance on reuse is dispersed among various documents rather than addressed by a clear policy statement.

- Text suggests that new initiatives are evaluated for possible reuse after they are designed, rather than before.

- Under "EA and the FEA-PMO Initiative...SRM Registry," there is a "VA Sharable Service Component Registry" that lists 9 sharable services. But it does not appear that the VA has a process in place for "driving re-use" as required for Level 3.

Action Items to move toward achievement of Level 3:

- Develop process for "driving reuse" and ensure that process measures and tracks cost savings.
- Catalog all agency services and service components for reuse.

2.3.3   Business Process and Service Improvement

Business Process and Service Improvement	Agencies should have the ability to demonstrate business process/service improvements and improved mission outcomes as a result of EA program implementation.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Agency has identified stakeholders/ customer/user population and conducted a satisfaction survey/needs assessment for improving services for each business segment. **Artifacts:** EA Program Plan	**Activities:** Agency has identified and documented business process/ service improvement metrics (including baseline and target) for each architecture/business segment and metrics are linked to transition strategies, implementation plans, strategic goals etc. Roles and responsibilities are assigned for performance measurement activities for improving each business segment. **Artifacts:** EA Program Plan, Business Architecture	**Activities:** Agency monitors and tracks progress towards meeting the projected business process /service metrics. Business process improvement measures are tracked and well documented and available via a centralized repository. Agency demonstrates improved services and mission outcomes. **Artifacts:** PMA progress reports, EA Transition Strategy, E-Gov alignment and implementation reports	**Activities:** EA program measured for effectiveness against the business process/ service improvement criteria. Agency demonstrates improvements to business processes and customer services and mission outcomes. **Artifacts:** PMA progress reports, Transition Strategy, E-Gov alignment and implementation reports	**Activities:** Agency optimizes use of stakeholder/customer/ user business needs to continuously inform decision-making and resource allocation. Through performance measurement and reporting, relevant trends and anomalies are identified, corrective actions are taken, and cost savings/avoidance data calculations inform business/budget decision-making. **Artifacts:** PMA progress reports, Transition Strategy, E-Gov alignment and implementation reports

Interpretation: Evidence should indicate that EA program implementation improves business processes, services, and mission outcomes.

Assessment and Rating: 1.5 - 2*

Key Findings:

- Searches indicate that only three stakeholder populations have been surveyed to determine satisfaction levels, assess needs, and establish metrics. These are: employees; medical residents regarding the value of their clinical training experience; and patients who participated in the Survey of Healthcare Experience of Patients Ambulatory Care.

- The Strategic Plan 2003-2008 identifies performance measures for each strategic goal and the Accountability Report 2004 documents progress against key measures.

- In the Analysis & Recommendations section, there is a Business Process Re-engineering section with this note dated 06/01/2005: "This activity is currently in the planning stage, and it may be initiated late in CY-2005, subject to the availability of funds."

Action Item to move toward achievement of Level 2:

- In collaboration with lines of business, develop a plan and a process for surveying stakeholders for satisfaction and needs assessment.

* As of January 26, 2006, there had been no modifications to this section of the EA; therefore, this assessment is the same as that presented in the Interim Assessment of December 29, 2005.

2.3.4   IT Implementation Improvement

IT Implementation Improvement	Assess agency implementation of individual IT projects through EA principles such as interface and/or platform standardization, driving the agency towards service-oriented architecture implementations and improvements to the agency software development lifecycle process.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Agency SDLC processes exist, but they are not integrated with EA in any meaningful way. Agency developers do not .align their activities to technical standards or reuse opportunities identified within the EA. **Artifacts:** SDLC Guide	**Activities:** EA integrated in SDLC methodologies. Agency programmers and developers are aware of agency EA including technical standards, reuse strategy and interoperability standards. **Artifacts:** SDLC Guide	**Activities**: Agency is using the EA to drive the SDLC and processes. SDLC processes are a reflection of EA framework and standards. **Artifacts:** SDLC Guide	**Activities:** Agency has a documented plan for evolving to a Service Oriented Architecture for various business segments. **Artifacts:** Service-Oriented Architecture	**Activities:** Agency has implemented a Service Oriented Architecture (SOA) and is realizing the benefits. **Artifacts:** Service-Oriented Architecture

Interpretation: The EA contains performance measures that are aligned from the Strategic Plan to the Lines of Business of the BRM, to the Business Processes, to the Systems Services that will provide line of sight. All measures are tracked and reported in the Transition Plan.

Assessment and Rating VA EA 4.0: Level 1.5 – 2

Assessment and Rating VA EA 4.1: Level 3

Key Findings:

- The IT initiatives are mapped out by Layer and near-, mid-, or long-term phased implementation

- The terms "SDLC" and "systems development life cycle" appear only once, in the glossary of the EA.

- However, the intent of the SDLC is illustrated in the chart, titled "Governance Milestone Events" and in the section titled "Process Discussion... EA Procurement Review Process."

Action Items to move toward achievement of Level 3:

- ~~Develop an Agency SDLC Guide by leveraging the material that forms the foundation for the "Governance Milestone Events" chart and the "EA Procurement Review Process."~~

- ~~Develop and execute a communications plan to inform programmers and developers of EA technical standards, reuse strategy, and interoperability standards.~~

2.3.5   E-Gov, Lines of Business, and SmartBUY Alignment and Implementation

E-Gov, LOB, and SmartBUY Alignment and Implementation	Assess agency progress in aligning and implementing its EA in support of E-Gov initiatives, Lines of Business (LoB), and SmartBUY opportunities.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Agency has identified opportunities to align the EA to E-Gov initiatives, LoBs and SmartBUY solutions. **Artifacts:** PMA Scorecards (progress reports), E-Gov Implementation and Alignment Report	**Activities:** Agency has developed a Plan of Action and Milestones (POA&M) for implementing E-Gov initiatives, LoB and SmartBUY solutions. **Artifacts:** Implementation and Alignment Report	**Activities:** Agency is conducting EA alignment and migration activities and measuring progress against its POA&Ms. Agency has documented cost savings/cost avoidance projections and is managing towards those goals. **Artifacts:** PMA Scorecards (progress reports), E-Gov Implementation and Alignment Report; Transition Strategy	**Activities:** Agency is implementing the common solution and/or migrating towards the common solution; duplicative and redundant systems are being shut down; resources realigned from administrative to more strategic focused work. Agency demonstrates real cost savings and cost avoidance as a result of EA program implementation. **Artifacts:** PMA Scorecards (progress reports), E-Gov Implementation and Alignment Report, SmartBUY license agreements	**Activities:** EA program is continuously driven by common solution strategies including E-Gov initiatives, LoBs and SmartBUY solutions. Agency is continuously identifying new opportunities to leverage cross-agency initiatives such as LoBs and SmartBuy . **Artifacts:** PMA Scorecards (progress reports), E-Gov Implementation and Alignment Report, SmartBUY license agreements

Interpretation: VA should show progress in use of the EA to support E-Gov initiatives, LoB, and SmartBUY opportunities.

Assessment and Rating: Level 1

Key Findings:

- VA has identified three areas for E-Gov initiatives: Payroll, Travel, and Training. Travel project description states, "(VA) will migrate towards GSE eTS by Sept. FY06." No implementation plans were found for payroll and training system.

- No evidence that the VA's lines of business have been mapped to the BRM's codes for Business Areas, LoBs, and sub-functions as specified in the current guidance from the OMB.

- Searches did not reveal the term "SmartBUY" in the EA.

Action Items to move toward achievement of Level 2:

- Develop the Plan of Action and Milestones (POA&M) for implementing the active projects underway.

- Develop the E-Gov Implementation and Alignment Report.

2.3.6   IPv6 Planning

IPv6 Planning	Agency EA (including transition strategy) must incorporate IPv6 into agency target architecture.			
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Activities: Agency has assigned an official to lead and coordinate agency planning for IPv6 transition. **Artifacts:** Memorandum signed by the agency CIO documenting appointment and duties/responsibilities thereof	**Activities:** agency has completed an inventory of existing routers, switches, hardware firewalls, and other IP-compliant devices and technologies. **Artifacts:** IP device inventory using guidance in attachment A, OMB M-05-22	**Activities:** agency has performed an impact analysis to determine fiscal and operational impacts and risks of migrating to IPv6. **Artifacts:** IPv6 impact analysis document using guidance in attachment B, OMB M-05-22	**Activities:** agency has developed an IPv6 transition plan and integrated this plan with the agency EA transition strategy. **Artifacts:** EA transition strategy with integrated IPv6 transition plan addressing areas listed in attachment C, OMB M-05-22	**Activities:** agency has migrated its network backbone to IPv6, and provided a capability for all its networks to interface with this backbone. **Artifacts:** SDLC (systems development lifecycle) artifacts documenting the updated network infrastructure

Interpretation: The VA target architecture must incorporate planning for IPv6.

Assessment and Rating for VA EA 4.0: Level 0

Assessment and Rating for VA EA 4.1: Level 2 – 2.5

Key Findings:

- The IPv6 addendum to the VA EA has an example checklist for OMB as well as text explaining IPv6 and the Transition Strategy Guidance.

- The guidance document has many sections outlined but not filled in with content.

- However, what content is there is a good indication of what to expect in the final document and, what's more, it is actionable even though all the details haven't been written down.

- Work has been started on the network inventory and the transition impact analysis.

Action Items to move toward achievement of Level 3:

- For Level 3: Complete the IPv6 document.
- For Level 3: Solidify the impact analysis

Recommendations to move toward One-VA EA:

- Complete the Transition Strategy Guidance document
- Incorporate the IPv6 Transition Strategy as an initiative in the overall EA Transition Strategy

3. Recommendations

In order to address improvement to the VA EA beyond the EA submission to the OMB in February, 2006, MITRE recommends the following:

3.1 EA Program

- Expand the EA Strategy beyond IT: show how the VA EA is business driven and *sketches out the mature interaction of* business processes, IT, people, and resources.

- Create Developmental Goals for the EA Program with specific strategies to meet the EA Program goals.

- Establish an EA Program Management Office to manage and oversee the development, use and maintenance of the EA.

- Increase involvement of all stakeholders by emphasizing that the Department is more concerned about the usefulness of the architecture than about the score OMB gives it.

- Develop EA Governance plan and associated processes to drive stakeholder commitment to and use of the EA as an enabling mechanism to move towards the One-VA vision.

3.2 EA Communication

- Modify all EA references to ensure that "architecture" is used only in terms of the Enterprise. Focusing on One-VA will support the perception of the EA as a cohesive balance of technology and business interests, and not only computer-related. *(This specifically addresses the mission statement of the EA as found in the Communications Plan.)*

- Publish a timeline of the development effort and its major milestones. Using a form that can be understood easily by internal and external stakeholders, establish approximate dates for the phases of the architecture and show where on the timeline the VA EA currently stands. This will establish the incremental approach to architectural development while also identifying the parts of the architecture already developed.

3.3 OMB Framework Assessment

- Use direct mappings to the BRM and add recommendations for missing elements back to the OMB.

- Use the generic services as defined in the SRM to map existing As-Is services and identify any services that will be incorporated into future Vision Architecture.

- Use the elements defined in the TRM to identify interoperability standards to promote data sharing.

- Include strategic outcomes, desired business results, and performance measures — integrated with a line-of-sight approach to ensure that all measures are traceable throughout the architecture.

- Adopt the DRM as guidance as provided from the OMB.

3.4   EA Usability

- Use a diagram-centric approach where possible. Use the diagrams found in many various places of the architecture for the vision-level conceptual artifacts.

- Plan deep-dive studies for certain portions of the architecture. Inform stakeholders of the need for the deep-dive and enlist their help in finishing them. One area ripe for deep-dive study is at the overlap points of the subordinate architectures.

- Solicit user participation in the identification of requirements for use of the EA and in the development of views to support usage of the EA.

- Work with the Administrations to ensure that the architecture is truly representative of the existing environment's architecture and work together to define future vision.

3.5   EA Structure

- Simplify the structure of the EA.
- Integrate the elements of the EA using the FEA Reference Models to structure content.
- Incorporate information data needs and user roles to support data sharing strategy.
- Extend the Enterprise Transition Strategy with technology sunsets and future vision of the enterprise.

3.6   EA Navigation

The intranet site is easy to navigate for the experienced architect. During the time MITRE reviewed the architecture, the contents of the website were in development. The "Last Published Date" on each page changed almost daily, which make discovery of new developments difficult.

 The visual design of the site is generally good. The viewing pane, although small, contains appropriately sized descriptive paragraphs of the topic; the reader rarely has to scroll down to read more. A few changes could enhance the site for the reader:

- Create a document that describes the EA team(s) involved in the creation of the VA EA. List each individual, using pictures of the key players, and list contact information.

- While the VA EA is in development, create a "What's New" page that summarizes the previous day's build activity. Link to this page from every page of the website, or put the link in the top frame.

- Float the side navigation menu so that the user can always see it.

- Turn off or remove the tool tips (floating boxes that appear when the cursor hovers over an item); the boxes sometimes obscure the text of the item.

- Locate the bullets at the first line of the topic title. Currently, the list bullets are centered on the topic, making it difficult to know where a multi-line topic title ends and the next title begins.

- Compartmentalize the information contained in the Microsoft Excel spreadsheets such that one could review only the information selected by the user. Currently, spreadsheets are oversized documents that are cumbersome to read.

- Hide rows or columns that contain no intersection points.

Acronyms

BRM	Business Reference Model
CA	Chief Architect
CDM	Conceptual Data Model
CIM	Corporate Information Model
CIO	Chief Information Officer
CM	Configuration Management
CONOPS	Concept of Operations
CPIC	Capital Planning and Investment Control
CRUD	Create, Read, Update, Delete
CY	Calendar Year
DoD	Department of Defense
DRM	Data Reference Model
DVA	Department of Veterans Affairs
EA	Enterprise Architecture
EAAF	Enterprise Architecture Assessment Framework
EAC	Enterprise Architecture Council
FEA	Federal Enterprise Architecture
FY	Fiscal Year
IP / IPv6	Internet Protocol / IP version 6
IRM	Information Resource Management
IT	Information Technology
ITIM	Information Technology Investment Management
IV&V	Independent Verification and Validation
LOB	Line of Business
NCA	National Cemeteries Association
OEAM	Office of Enterprise Architecture Management
OMB	Office of Management and Budget
PDD	Product Description Document
PMA	President's Management Agenda

PMO	Program Management Office
POA&M	Plan of Action and Milestones
POC	Point of Contact
PRM	Performance Reference Model
QA	Quality Assurance
RE/CM	Registration Eligibility / Contact Management
SDLC	Systems Development Life Cycle
SME	Subject Matter Expert
SOA	Service-Oriented Architecture
SRM	Service Reference Model
TRM	Technical Reference Model
VA / DVA	U.S. Department of Veterans Affairs
VBA	Veterans Benefits Administration
VHA	Veterans Health Administration